



## King's Research Portal

DOI:

[10.1108/JMHTEP-02-2016-0014](https://doi.org/10.1108/JMHTEP-02-2016-0014)

*Document Version*

Peer reviewed version

[Link to publication record in King's Research Portal](#)

*Citation for published version (APA):*

Gillard, S., Foster, R., & Papoulias, C. (2016). Patient and public involvement and the implementation of research evidence into practice. *The Journal of Mental Health Training, Education and Practice*, 11(4), 256-267. <https://doi.org/10.1108/JMHTEP-02-2016-0014>

### **Citing this paper**

Please note that where the full-text provided on King's Research Portal is the Author Accepted Manuscript or Post-Print version this may differ from the final Published version. If citing, it is advised that you check and use the publisher's definitive version for pagination, volume/issue, and date of publication details. And where the final published version is provided on the Research Portal, if citing you are again advised to check the publisher's website for any subsequent corrections.

### **General rights**

Copyright and moral rights for the publications made accessible in the Research Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognize and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the Research Portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the Research Portal

### **Take down policy**

If you believe that this document breaches copyright please contact [librarypure@kcl.ac.uk](mailto:librarypure@kcl.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.



Emerald

Journal of Mental Health  
Training, Education  
and Practice

## Patient and public involvement and the implementation of research into practice

Journal:	<i>Journal of Mental Health Training, Education and Practice</i>
Manuscript ID	JMHTEP-02-2016-0014.R1
Manuscript Type:	Literature review
Keywords:	Patient and Public Involvement, Experiential Knowledge, Implementation Science, Knowledge Translation, Conceptual Model, Impact of Involvement

SCHOLARONE™  
Manuscripts

**Patient and public involvement and the implementation of research into practice**

**Abstract**

*Purpose*

Patient and public involvement (PPI) is increasingly central to the delivery of health services research. However it has proved challenging to evaluate the impact of PPI on the implementation of research into clinical practice and health service delivery. We develop a conceptual model explaining how PPI in the research process might impact on implementation.

*Methodology*

A **scoping** review of knowledge translation and implementation science literature was performed to develop a conceptual model of the impact of PPI in research on implementation. A retrospective case study of a research project was used to illustrate the model.

*Findings*

We identified five domains in which PPI can impact on the implementation of research into practice. Our review demonstrated that successful implementation depends on 1) developing relational models of knowledge production, 2) **valuing** experiential knowledge, 3) engaging in collaborative practice, 4) making use of knowledge brokers or tools for knowledge facilitation, and 5) embedding these factors into the implementation context. In our case study we were able to find examples that illustrated each of the five domains of our model.

*Value*

Our paper builds on existing endeavour to evaluate the impact of PPI in research, demonstrating that it is possible to model, conceptually, the processes whereby PPI in research might impact on practice and service delivery. By illustrating those processes through our exemplar case we also demonstrate the potential for our model to be ‘operationalised’, allowing the impacts, on practice, of PPI in research to be systematically and directly evidenced.

*Keywords:* Patient and public involvement; experiential knowledge; knowledge translation; implementation science; conceptual model; impact of involvement

*Classification:* Literature Review

## Background

Current UK health policy recognises service user, or patient and public involvement (PPI) as an important dimension in health research. PPI is defined as the carrying out of research “‘with’ or ‘by’ members of the public rather than ‘to’, ‘about’ or ‘for’ them”(INVOLVE). PPI can be practiced during several phases of the research process, from setting research priorities, to developing research materials and advising over the conduct of research, to analysing data and disseminating results. In this context, there is considerable investment in understanding and evaluating the impact of PPI on the research process and on research findings. For example, emerging evidence suggests that involving patients and public in the conduct of research may contribute to higher rates of recruitment and retention (Lindenmeyer et al., 2007, Iliffe et al., 2013, Ennis and Wykes, 2013) and to rich, alternative interpretations of qualitative data (Gillard et al., 2012) informed by lived experience standpoints. Additionally, there are indications that PPI may strengthen the acceptability of new interventions by local communities (Staley K, 2009). However, a more systematic evaluation of PPI impact has proven more challenging, and in particular an answer to the question ‘how does PPI impact on the implementation of research into practice?’ remains elusive.

This scarcity of knowledge is – in part – attributed to poor reporting: a comprehensive presentation of patient and public involvement strategies is rarely embedded in the dissemination of research findings, indeed space is rarely provided in peer reviewed publications to do so; (Jones et al., 2015, Staniszewska et al., 2011). To remedy this, a number of toolkits are currently being proposed to facilitate both the systematic reporting of PPI activities in health and social care research (Staniszewska et al., 2011) as well as aid in the coherent articulation of the values guiding involvement activities in specific projects (Snape et al., 2014).

Furthermore, there is a fundamental methodological problem here; namely, it is not possible to use experimental methods to measure the potential impact of service user involvement on the acceptability and sustainability of a health intervention. In the absence of any control condition to indicate otherwise, where we observe the positive impacts of a research programme we cannot, with confidence, attribute (even in part) those benefits to service user involvement in the research (as opposed to, for example, the quality of intervention under investigation, or the organisational culture of the service hosting the intervention) (Wilson, 2015).

In the face of these challenges, there is an increasing recognition that PPI in health and social care research should be evaluated as a ‘complex social intervention’. That is to say, the impact of PPI needs to be adequately theorised *before* we determine how to best measure it, since such impact depends, to a large extent, on the organisational, scientific, policy and cultural contexts which underpin involvement (Brett et al., 2010, Staley et al., 2014). For example, there is considerable lack of clarity over what impact might mean in the case of PPI. Since the function and role of involvement in research is contested (Ward et al., 2010) impact might be considered in the context of research effectiveness (uptake of innovative service or treatment), community empowerment (sustainable engagement in research and service improvement), or alternatively on the potential of involvement to transform the procedures and organisational cultures within which research projects are embedded (Gradinger et al., 2013).

In recent years efforts have been made to build and test theoretical models capable of engaging with the complexities of impact of PPI in health and social care research. Two UK National Institute for Health Research (NIHR) funded studies have recently sought to address this complexity by employing a Realist Evaluation framework (RE). RE acknowledges that programmes introduced to bring about change in health and social

outcomes are ‘embedded’ in social systems and subject to the complexities of the real world. Therefore evaluation of such systems should proceed by paying close attention to the interaction between the ‘mechanism’, ‘context’ and ‘outcome’ of such programmes in order to determine ‘what works for whom in what circumstances’ (Pawson and Tilley, 1997). Building on earlier RE-informed reviews of PPI in research (Brett et al., 2010, Staley et al., 2014), Evans and colleagues (2014) found that what they call ‘effective PPI’ depends on leadership styles and the culture of involvement as well as on adequate funding and resourcing and provision of adequate feedback on the value of patient and public members’ contribution to the research. Wilson and colleagues (2015) found that six characteristics of collaborative practice predicted successful PPI: clear purpose, role and structure for PPI; ensuring diversity; whole research team engagement with PPI; mutual understanding and trust between researchers and lay representatives; ensuring opportunities for PPI throughout the research process; reflecting on, appraising and evaluating PPI within a research study. In other words, both these studies defined impact in terms of improved research quality and improved personal outcomes for the members of the research teams (both lay and professional). These studies did not, however, consider downstream outcomes for beneficiaries of services informed by the research; they did not explore the impact of PPI on the implementation of research evidence into clinical practice.

In this paper we aim to provide the conceptual tools to address this question. To do so we propose here to turn to the parallel fields of knowledge translation and implementation science. In the health sciences, implementation research designates a cross-disciplinary field of inquiry which considers, for example, why an intervention that demonstrates significant effect under experimental conditions might struggle to deliver the same benefits in the real world where a range of contextual and social factors might impede successful implementation (Kitson et al., 2008). Implementation research seeks to define and analyse the complex processes through which this know-do gap may be effectively bridged. ‘Knowledge translation’ is a broader term, which encompasses both the generation and the mobilisation of research evidence to specific ends (clinical, educational, epidemiological), with the overarching purpose of consolidating ‘evidence based practice’ (Grimshaw et al., 2012). Terminology in this field is particularly labile, testifying to regional, methodological and disciplinary variation; other terms include knowledge transfer, exchange, dissemination, or diffusion. Nonetheless these overlapping literatures offer explanatory models of the reciprocal relationship between research and practice that might lend us the conceptual building blocks with which to begin the iterative cycle of theorising and testing a model of the impact of PPI on the implementation of research into practice. In short, we aim to designate potential spaces where PPI might shape the implementation process.

In doing so the model we produce will not be definitive, but instead will build on existing approaches to evaluating the impact of PPI described above, invite discussion, and encourage empirical and theoretical interrogation and further refinement as we seek to fully understand and realise the benefits of PPI in research.

**Aim**

In order to begin to address the methodological challenges identified above this paper will:

1. Develop a conceptual understanding of how PPI in the research process impacts on the implementation of research into practice and service delivery;
2. Explore the feasibility of ‘operationalising’ the resulting model as a framework for collecting evidence to evaluate the impact of involvement in research on implementation into practice.

## Method

This paper will report a literature review and a retrospective case study of a research project. The literature review will be used to develop a provisional conceptual model of the impact of involvement in research on implementation into practice (aim 1) and the case study used to illustrate the model and thereby explore the feasibility of operationalising the model as a framework for collecting evidence of the impact of involvement in research on implementation into practice (aim 2).

### *Literature review*

Scoping reviews provide a useful way to collect and organise important background information. They are described as a process of mapping the existing literature or evidence base, often dealing with broad research questions or topics, involve qualitative synthesis and can be used to identify parameters and gaps in a body of literature. Our approach followed Armstrong and colleagues' development of a framework for conducting a scoping review: identifying the research question; identifying relevant reviews; paper selection; categorising the data (using thematic analysis); and collating, summarizing and reporting results (Armstrong et al., 2011).

Literature was sourced through the online databases Medline and PsychINFO. Search terms pertaining to knowledge translation were used; 'knowledge translation', '-transfer', '-utilization', '-exchange', '-implementation, and 'implementation science'. As the scope of our enquiry was to identify conceptual processes involved in knowledge transfer, these results were combined with search terms for reviews or conceptual papers. Limits were applied to peer reviewed journal papers only, published in English between 2000-2015. The second author screened titles and abstracts against a primary inclusion criterion of health and social care research context. Reference lists of included papers were searched for further relevant review or conceptual papers.

We identified 10 papers; nine reviews and one conceptual paper. We used Braun and Clarke's (2006) six-stage guide to Thematic Analysis to analyse the papers, to identify processes of implementation of research into practice wherein the involvement of patients, service users or members of the public in those processes might shape or impact on implementation.

Initially the second author read and coded papers, aiming to capture a rich thematic description of the content of the papers and establish a sense of the predominant or important themes in the literature. Braun and Clarke (2006) differentiate between a semantic approach where themes are identified within surface meanings of the data and a latent approach which goes beyond semantic content of data and examines underlying ideas, assumptions and conceptualisations that are theorised as shaping or informing the semantic content of the data. We used a latent approach themes because the data set itself (review papers) had in many ways already been transformed, interpreted and processed at, in the least, a semantic level.

Primarily we were looking for processes that were in some way socially described (Dagenais et al., 2013) – where 'who was involved' might be important to the process (Nowotny et al., 2001) – in order that we addressed our primary task of identifying space for PPI in the implementation process. Coding paid attention to the health context of the papers, the type of social interventions, results, methods, interpretations and conclusions. Initially 26 codes were labelled and after team discussion, these were further collapsed or combined into 7 over-arching themes. Following Braun and Clarke's (2006) guidelines of 'keyness' and prevalence of themes - where prevalence was defined in terms of frequency and spread of occurrences across the review papers - we also sought to identify where equivalent or parallel processes were described in the



different literatures we reviewed. Through discussion and further refinement within the team, 5 final domains were chosen which represented those themes that were most prevalent across review papers and most relevant to our research aims.

*Case study*

We identified a recent, UK National Institute for Health Research-funded mental health research project in which there were high levels of service user involvement in the design, conduct and reporting of the research (Authors, 2014), and which had already produced a number of academic and applied outputs. Using documentary evidence of both research process and research outputs, we report and reflect on specific examples of processes as described within each domain of our model. To note, we are not testing our emerging model per se in this case study, but rather exploring the feasibility of using case study data to test the model through future, formal case study work.

**Findings**

We developed a conceptual model consisting of five domains which identified and explained the processes whereby PPI might impact on implementation of research evidence into practice. We present each of those domains below, indicating in Table 1 the prevalence of each domain across the literature reviewed. We then illustrate the potential to ‘operationalise’ the emerging model with examples from our case study.

[insert table 1 about here]

*1) Relational models of knowledge production*

A number of the reviews we considered referred to the processes of producing and using knowledge as taking place within a complex system of social interactions among stakeholders. Taken for granted assumptions that the transfer of research knowledge is uni-directional, from knowledge producer to knowledge end-user – a non-relational process – are challenged (Peters et al., 2013), and it is noted that the practitioners and decision-makers who put research into practice should not just be seen as the passive recipients of research-acquired knowledge (Graham et al., 2006). While the process of knowledge transfer can be linear, it can also be cyclical and multi-directional; an interactive, relational process involving a range of different actors and activities (Ward et al, 2009). A two-way process of knowledge exchange that happens between stakeholders in a dynamic and changing way is described, ensuring that the knowledge that is generated is relevant and applicable to all involved in the process (Pentland et al., 2011). However, it is also noted that the different communities involved in this iterative exchange process might have different knowledge cultures, and that reciprocity of communication is not guaranteed (Jansson et al., 2010). Kitson and colleagues (2008), in their PARiHS framework, suggest that the successful implementation of research knowledge into practice involves negotiation and the development of a shared understanding among stakeholders, and that this process requires careful choreography and a ‘team effort’ amongst all involved. Issues of power in relation to decisions about the knowledge that is needed and about the direction of knowledge transfer (about who is providing knowledge to whom) can inhibit relational knowledge production (Graham et al., 2006, Ward et al., 2009), especially where consultation and collaboration is taking place between powerful and vulnerable groups (Jansson et al., 2010).

*2) Experiential knowledge*

It is noted how most knowledge transfer models focus on the transfer process, treating knowledge as an object, the creation or qualities of which are neglected as an independent factor in the transfer process (Graham et al., 2006, Jansson et al., 2010). Furthermore, most of our habitual language around implementation implies a

prioritisation of formal, research knowledge, rather than other forms of knowledge such as the experiential knowledge held by the range of stakeholders to the research process (Graham et al., 2006), and that tensions exist around the privileging of academic versus experiential knowledge that can inhibit a collaborative implementation processes (Jansson et al., 2010). A (re)prioritisation or balancing of non-codified, experiential knowledge (such as clinician- or patient experience and preference) as a valid source of evidence – in relation to dominant, objectifying, research-based knowledge – is advocated as supporting the successful implementation of research into practice (Kitson et al., 2008). Ward and colleagues (2009) contrast conceptualisations of knowledge implementation that are limited to the mobilisation of formal research evidence with those that incorporate processes whereby the tacit knowledge – or ‘received wisdom’ – held by individuals and groups are also transferred into action. They suggest that the inherent characteristics of the knowledge itself might be associated with its successful transfer into practice (Ward et al., 2009). Coming from distinctive cultures of practice, the traditional recipients of academic research can also be active providers of *different* knowledge that, in collaboration with researchers, shapes a research process that is mutually relevant and speaks a common language to all stakeholders to the research (Graham et al., 2006), and in particular is understandable and acceptable to non-academic end-users of research (Jansson et al., 2010).

### 3) Collaborative practice

Several sources in our review refer to the importance of collaboration between stakeholders in order to achieve the successful uptake of knowledge into practice. It is noted how the production and use of knowledge are different processes, and that producers and users of knowledge need to work flexibly and collaboratively in different phases of those processes at different times (Graham et al., 2006). As such collaborative practice is not just about delivering evidence based healthcare, but also about healthcare driving the production of research evidence, with frontline practice staff having a key role in shaping research process (Jansson et al., 2010). While several research funders now mandate the active involvement of practitioners in research teams, it is noted that there are a range of barriers to successful collaborative practice in knowledge production, and in particular that these processes are: lengthier and more resource-intensive than traditional research models; difficult to sustain over long periods; potentially superficial; slowed by institutional ethical guidelines; can result in tensions in the sorts of knowledge that are produced (academic versus experiential) (Jansson et al., 2010). A number of reviewers note that it is proper resourcing, plus the active, structured, and practical involvement of non-academic partners in all aspects of the identification, design and conduct of research that will overcome these barriers (Jansson et al., 2010, Pentland et al., 2011, Peters et al., 2013).

### 4) Knowledge facilitation

It has been noted how a knowledge infrastructure needs to be created at the boundaries between policy, research and practice in order to facilitate the production and use of knowledge, such as ‘boundary organisations’ that sit at the interface between stakeholders and comprise members of each (Hoeijmakers et al., 2013). Several papers state the importance of ‘knowledge brokers’, often third parties such as not-for-profit or voluntary sector organisations (Jansson et al., 2010), acting as ‘change agents’ at the boundary between research and practice (Thompson et al., 2006). Knowledge brokers can facilitate collaboration and negotiate those societal issues that impinge on the implementation of science into everyday practice (Verhagen et al., 2014, Hoeijmakers et al., 2013). Noting that the diffusion of new knowledge is essentially a social process (Thompson et al., 2006), such knowledge brokers also have the potential to communicate research in culturally sensitive ways, and to negotiate power relations,



especially with respect to vulnerable groups who might feel over-researched and unheard (Jansson et al., 2010). As such, the length and strength of collaborative partnerships at the boundary of research and practice fosters successful knowledge exchange (Jansson et al., 2010), while the credibility of the broker with both research and practice partners is assumed to be important (Pentland et al., 2011, Thompson et al., 2006), along with their skill at negotiating shared understandings across the research-practice divide (Kitson et al., 2008). Finally, practical, solution-focussed tools (Pentland et al., 2011) coproduced by researchers and practitioners – such as protocols for implementation or joint learning sessions – are also referred to as ‘boundary objects’ that can facilitate the movement of research knowledge into practice (Hoeijmakers et al., 2013).

5) *Implementation context*

Finally, it has been noted how the successful use of knowledge in healthcare is a function of how different types of knowledge and their facilitation into practice interact with the broader context or environment (Kitson et al., 2008). More recent implementation science thinking highlights the importance of considering organisational context at the implementation end of the knowledge transfer process; the ‘context of practice’ (Dagenais et al., 2013). This broad understanding of context comprises the social, cultural, economic, political, legal and physical environment, as well as the structure of health systems (the roles played by government agencies, non-governmental organisations, private providers and members of the public), together forming ‘complex adaptive systems’ in which implementation takes place (Peters et al., 2013). It is proposed that some organisational contexts are more conducive to successful implementation than others, highlighting the importance of learning cultures (with appropriate evaluative and feedback mechanisms), transformational leaders and change facilitators, and prepared, receptive teams as enhancing implementation processes (Kitson et al., 2008). It has been suggested that non-governmental organisations, while possibly suffering from limited resources and higher demands on frontline personnel compared to large public sector bodies, have the advantage of being able to implement change relatively quickly as a result of having less bureaucratic rules and closer staff relationships (Jansson et al., 2010). More generally, the motivation of stakeholders as end users of new knowledge, as well the ‘readiness for change’ of the implementing organisation have been identified as important contextual factors facilitating the implementation of research knowledge into practice (Ward et al., 2009).

*Illustrative case study*

We **explore** the conceptual domains above with a brief case study of a mental health research project that included people with lived experience of using mental health services, providing peer-led services and working as service user researchers as core members of the research team, alongside academics and clinicians of a range of disciplines (Authors 2014). The project was a qualitative, comparative case study of the introduction of new peer worker roles into mental health services in England.

**1. Relational models of knowledge production.** The research team included two managers of peer support services and a peer worker working in the statutory sector, and two managers of peer support services in the voluntary sector; potential end-users of the knowledge that was produced in the research. In research team meetings those team members were given space in the agenda to talk about their work and what they hoped would be achieved by the research. At the initial meeting there was tension between those positions, with one of the voluntary sector managers expressing concerns that peer support was being co-opted and formalised by the statutory sector, hoping that the research would serve to identify and report on core values underpinning peer

support in order that these did not become eroded as peer support was implemented into practice. As the research progressed all members of the team did work together on identifying core values through the interpretation of qualitative interview data. However in the latter stages of the project the roles of some of the statutory sector team members were unable to attend meetings. Their insight on the implications of research findings for implementation in the statutory sector is perhaps less conspicuous in the final report.

**2. Experiential knowledge.** Data collection for the project was undertaken by two service user researchers. Research interviews with mental health service users, peer workers and other staff comprised an initial, highly-structured schedule – to test concepts derived from existing research about peer support – followed by a looser, more inductive component. In initial pilot interviews service user researchers noted that some interviewees – especially those in culturally-specific and peer-led peer support projects – did not relate to the language used to describe peer support in the structured schedule. While the research protocol agreed with funders explicitly prioritised the deductive testing of existing research-based knowledge, the team decided that in case study projects that did not take on the highly organised form implicit in the structured schedule the open questions would precede the structured component. These narrative, experiential accounts were productive of in-depth data that related to issues of identity, culture and peer support and resulted in an additional, unanticipated section in the final report. The learning for the project as a whole was of the potential for the language used in research about peer support to either alienate or engage stakeholders with both research process and outputs.

**3. Collaborative practice.** Clinicians, as well as the managers, peer worker and service user researchers noted above, were members of the research team alongside academics of various disciplines. A focus of the team's collaborative practice was an interpretive approach to the analysis of qualitative interview data developed in earlier research by members of the team (Authors 2012). Service user researchers undertook preliminary analysis of interview data and presented emerging themes to the rest of the team. The team as a whole discussed and refined the content, boundaries and meaning of themes, and their contributions were noted and attributed on a visual matrix as the discussion progressed. The importance of 'peer leadership' in the development of peer support roles, as articulated in the final report, can be traced to the contribution to the analysis process of team members speaking from an experiential perspectives, for example. However it was often not so easy to identify specifically how this collaborative process shaped study findings.

**4. Knowledge facilitation.** Alongside academic knowledge outputs the team developed a set of practical learning tools – [project website address] – that aimed to help service provider organisations develop and introduce new peer worker roles, informed by the experiential insight produced through the research. Those tools have since been adopted by a number of organisations and partnerships as they implement new peer worker roles into practice. In one instance a service user researcher member of the team was involved in introducing learning from the research at a workshop of the provider partners, and in another a service user activist working with both the local statutory sector provider and service user groups took on the role of knowledge broker, assisted by a member of the research team, adapting the tools for a series of stakeholder workshops. For the research team these were new collaborations that have involved an ongoing resource commitment beyond the lifetime of the research that was not originally envisaged.

**5. Implementation context.** The 'end users' of these tools to date are either voluntary sector providers or partnerships wherein peer-led groups are working with a large statutory sector organisation as a change agent, driving the implementation of innovative new practice. The reasonably labour intensive, organisational learning

approach required of the tools potentially constrains their application in the statutory sector where provider organisations are perhaps more receptive to ‘off-the-shelf’ guidance developed within and for the statutory context.

**Discussion**

In our focused scoping review of the implementation research and knowledge translation literatures we were able to identify and parse out the processes and interactions that constitute knowledge translation into discrete yet overlapping domains. These domains, we argue, may give us a better understanding of how patient and public involvement can impact on the implementation of research evidence into practice. Our paper has also used a specific implementation case study to demonstrate how these domains may allow us to clarify the contribution of service users to the implementation process. Based on that literature and case study work we sought to identify potential spaces for service user, or patient and public involvement in the implementation of research evidence into practice. That is, the literature we cite above largely considers those other actors contributing to the implementation of research into practice – alongside the researcher – to be health practitioners. We wanted to identify where models of knowledge production, types of knowledge, forms of collaborative practice and so on might be shaped or produced by service users and patients. As such we can further articulate our emerging conceptual model as follows:

**Conceptual model of the impact of Public and Patient Involvement on the implementation of research into practice**

*1) PPI and relational models of knowledge production*

- Service users and members of the public act as active producers of knowledge shaped by personal, lived experiences of health (illness and wellness) and/ or of using health services (not just as recipients of clinical-academic knowledge)
- The presence of active service user or patient voices in research teams changes the culture of knowledge production within the team, potentially challenging traditional university research culture

*2) PPI and experiential knowledge*

- Service user and patient produced knowledge about health preserves the experiential frame of reference of the ‘research subject’ (rather than reconstructing those experiences in terms of a codified academic or clinical discourse)
- This experiential knowledge has the potential to counter-balance or critique dominant, clinical knowledge about health (for example, in contrast to bio-medical illness models)
- Experientially produced knowledge about health is relevant, and ‘speaks to’ a service user or patient audience (as well as to academic and provider audiences)

*3) PPI and collaborative practice*

- The active involvement of service users and patients in all aspects of the identification, design and conduct of health care research

*4) PPI and knowledge facilitation*

- Individuals bringing both research skills and lived experience of health service use – ‘service user researchers’ – acting as credible knowledge brokers at the boundaries between research, practice and using health services

- Service user-led groups and patient organisations as knowledge brokers or boundary organisations spanning the gap between academic institutions and health care providers
  - Service user and patient involvement in the coproduction, with research teams, of learning tools that translate technical, academic knowledge into practical, relevant and useable applications
- 5) *PPI and the implementation context*
- Service users - as individuals and patient groups – have the potential, through their active involvement in the processes described above, to adapt or ‘ready’ or provider organisational culture for the implementation of experiential knowledge into practice
  - Service user and peer-led, or partnership organisations as new, emerging providers of health care services offering opportunities for implementing experiential knowledge into practice
  - Converging experientially-grounded cultures of service user research and peer-led service delivery

These domains – in particular their processual and collaborative emphasis – resonate with recent developments in the knowledge translation literature, such as ‘integrated knowledge translation’ (IKT) and ‘co-creative implementation’. IKT proposes that knowledge translation is a social process which emerges through different levels of intricate decision-making (both individual and collective) and that therefore the cultivation of trans-disciplinary dynamics and enduring partnerships is key to successful and sustainable translation. While the IKT model is essentially collaborative and provides a conceptual model for the enmeshing of different kinds of expertise, it has not, to-date, addressed patient and public involvement and lay expertise (Lapaige, 2010). Co-creative implementation echoes the collaborative principles of IKT and, additionally, emphasises ‘deep involvement’ of a variety of stakeholder groups while prioritising local community need rather than research exigencies. It also, uniquely, proposes that resistance to innovation might be traced back to anxieties about potential loss of shared knowledge and devaluation of experience. Again, while not openly addressed, patient and public involvement is broadly implied in the co-creative implementation approach (Metz and Albers, 2014).

It is informative at this stage to relate our emerging conceptual model to the primary findings of the RE approach to evaluating the impact of PPI, as explored above. The reviews of Staley (2009) and Brett (2010), and the empirical evaluations of Evans (2014), Wilson (2015) and their teams, speak volumes about the importance of collaborative practice in the knowledge production process (our Domain 3), exploring in particular the subtleties and complexities of that practice at an individual, relational level in considerably more detail than we find in the implementation science literature. The RE focus on understanding the context in which complex social change processes take place (Pawson and Tilley, 1997) is likewise reflected in our review work. The learning offered here is that it is the context of research implementation (our Domain 5) – and not just of knowledge production – that mediates the translation of new knowledge into practice. Public and patient actors can act as change agents within both knowledge production and implementation spheres, readying and shaping health service providers to adopt innovative new knowledge about health care delivery.

However the most striking contrast between the RE impact literature and our findings is the centrality of knowledge itself – rather than research processes – in our emerging model. We identified changing dynamics, direction and cultures of knowledge



production – of who produces and uses knowledge about whom – (Domain 1), the rebalancing of experiential versus academic knowledge (Domain 2), and the potential for PPI actors to bridge knowledge gaps and facilitate that new knowledge into practice (Domain 4). We find that service user, or patient and public involvement responds to a call within implementation research to broaden our understanding of what counts as evidence by including the experiential knowledge of different stakeholders (Rycroft-Malone et al., 2004) as legitimate knowledge about health and health care, shaping the production of health services (Donetto et al., 2015) as well as the production and translation of research. It is through preserving the ‘research subject’s’ frame of reference – their experiential knowledge – (Rose et al., 2011) in the research that we produce and use, that public and patient involvement will impact on the implementation of research into practice. As such, as well as offering an approach to the evaluation of PPI, there is potential for the model to serve as a guide for enhancing PPI in research with the specific purpose of maximising impact of the research onto practice.

*Limitations*

We note of course that our case study was conducted retrospectively and selectively, related to a single healthcare field, mental health, and was not undertaken to provide an empirical testing of the model. Systematic, prospective and comparative case study would offer a more rigorous testing of the conditions proposed in our model (Yin, 1994). In particular it would be instructive to explore whether the patterns of involvement we noted in our mental health case, as they applied to the domains of the model, are replicated in other health service areas, or whether that involvement would manifest in different ways and so add complexity to the model. We also note that much of the literature we reviewed did not make particular reference to patients as actors in the knowledge field; the emphasis was often on translation between academics and clinicians. But the literature itself is sound and was robustly reviewed, and as such we feel provided an appropriate starting point for our conceptual enquiry.

*Conclusions*

Those reservations aside, we conclude that our engagement with the fields of knowledge translation and implementation research has enabled us to move beyond a focus on the mechanics of collaborative research process. We have foregrounded the qualities of knowledge itself and the broader role of knowledge actors in the implementation process as core to the potential contribution of PPI to implementation. With this we begin to build a conceptual model that explains the impact of PPI on the implementation of research into practice. Through our modest case study we tentatively suggest that it might be possible to operationalise this model; to systematically collect data – in much the same way that an empirical RE study might do – that tests the extent to which the features described in our five domains are evident in a real world implementation process. Through prospective cycles of testing and refining this model we might hope to come to a fuller understanding of how public and patient involvement in health care research comes to improve the delivery of health care in practice.

**References**

ARMSTRONG, R., HALL, B. J., DOYLE, J. & WATERS, E. 2011. 'Scoping the scope' of a cochrane review. *Journal of Public Health*, 33, 147-150.

BRAUN, V. & CLARKE, V. 2006 Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2), 77-101.

BRETT, J., STANISZEWSKA, S., MOCKFORD, S., SEERS, K., HERRON-MARX, S. & BAYLISS, H. 2010. The PIRICOM study: a systematic review of the conceptualisation, measurement, impact and outcomes of patients and public involvement in health and social care research. University of Warwick.



- DAGENAIS, C., MALO, M., ROBERT, E., OUIOMET, M., BERTHELETTE, D. & RIDDE, V. 2013. Knowledge Transfer on Complex Social Interventions in Public Health: A Scoping Study. *Plos One*, 8.
- DONETTO, S., PIERRI, P., TSIANAKAS, V. & ROBERT, G. 2015. Experience-based Co-design and Healthcare Improvement: Realizing Participatory Design in the Public Sector. *Design Journal*, 18, 227-248.
- ENNIS, L. & WYKES, T. 2013. Impact of patient involvement in mental health research: longitudinal study. *British Journal of Psychiatry*, 203, 381-386.
- EVANS, D., COAD, J. & ET AL 2014. Public involvement in research: assessing impact through a realist evaluation. *Health Services Delivery Research*, 2.
- GILLARD, S., BORSCHMANN, R., TURNER, K., GOODRICH-PURNELL, N., LOVELL, K. & CHAMBERS, M. 2012. Producing different analytical narratives, coproducing integrated analytical narrative: a qualitative study of UK detained mental health patient experience involving service user researchers. *International Journal of Social Research Methodology*, 15, 239-254.
- GRADINGER, F., BRITTEN, N., WYATT, K., FROGGATT, K., GIBSON, A., JACOBY, A., LOBBAN, F., MAYES, D., SNAPE, D., RAWCLIFFE, T. & POPAY, J. 2013. Values associated with public involvement in health and social care research: a narrative review. *Health Expect.*
- GRAHAM, I. D., LOGAN, J., HARRISON, M. B., STRAUS, S. E., TETROE, J., CASWELL, W. & ROBINSON, N. 2006. Lost in knowledge translation: Time for a map? *Journal of Continuing Education in the Health Professions*, 26, 13-24.
- GRIMSHAW, J. M., ECCLES, M. P., LAVIS, J. N., HILL, S. J. & SQUIRES, J. E. 2012. Knowledge translation of research findings. *Implementation Science*, 7.
- HOEIJMAKERS, M., HARTING, J. & JANSEN, M. 2013. Academic Collaborative Centre Limburg: A platform for knowledge transfer and exchange in public health policy, research and practice? *Health Policy*, 111, 175-183.
- ILIFFE, S., MCGRATH, T. & MITCHELL, D. 2013. The impact of patient and public involvement in the work of the Dementias & Neurodegenerative Diseases Research Network (DeNDRoN): case studies. *Health Expectations*, 16, 351-361.
- JANSSON, S. M., BENOIT, C., CASEY, L., PHILLIPS, R. & BURNS, D. 2010. In for the Long Haul: Knowledge Translation Between Academic and Nonprofit Organizations. *Qualitative Health Research*, 20, 131-143.
- JONES, E. L., WILLIAMS-YESSON, B. A., HACKETT, R. C., EVANS, D. & FRANCIS, N. K. 2015. Quality of Reporting on Patient and Public Involvement within Surgical Research: A Systematic Review. *British Journal of Surgery*, 102, 287-287.
- KITSON, A. L., RYCROFT-MALONE, J., HARVEY, G., MCCORMACK, B., SEERS, K. & TITCHEN, A. 2008. Evaluating the successful implementation of evidence into practice using the PARiHS framework: theoretical and practical challenges. *Implementation Science*, 3 (1).
- LAPAIGE, V. 2010. "Integrated knowledge translation" for globally oriented public health practitioners and scientists: Framing together a sustainable transfrontier knowledge translation vision. *Journal of Multidisciplinary Healthcare*, 3, 33-47.
- LINDENMEYER, A., HEARNshaw, H., STURT, J., ORMEROD, R. & AITCHISON, G. 2007. Assessment of the benefits of user involvement in health research from the Warwick Diabetes Care Research User Group: a qualitative case study. *Health Expectations*, 10, 268-277.
- MAY, C. & FINCH, T. 2009. Implementing, Embedding, and Integrating Practices: An Outline of Normalization Process Theory. *Sociology-the Journal of the British Sociological Association*, 43, 535-554.

- METZ, A. & ALBERS, B. 2014. What Does It Take? How Federal Initiatives Can Support the Implementation of Evidence-Based Programs to Improve Outcomes for Adolescents. *Journal of Adolescent Health*, 54, S92-S96.
- NOWOTNY H, SCOTT P & GIBBONS, M. 2001. *Rethinking Science*, Cambridge, Polity Press.
- PAWSON, R. & TILLEY, N. 1997. *Realistic Evaluation*, London, Sage.
- PENTLAND, D., FORSYTH, K., MACIVER, D., WALSH, M., MURRAY, R., IRVINE, L. & SIKORA, S. 2011. Key characteristics of knowledge transfer and exchange in healthcare: integrative literature review. *Journal of Advanced Nursing*, 67, 1408-1425.
- PETERS, D. H., ADAM, T., ALONGE, O., AGYEPONG, I. A. & TRAN, N. 2013. Implementation research: what it is and how to do it. *Bmj-British Medical Journal*, 347.
- ROSE, D., EVANS, J., SWEENEY, A. & WYKES, T. 2011. A model for developing outcome measures from the perspectives of mental health service users. *International Review of Psychiatry*, 23, 41-46.
- RYCROFT-MALONE, J., SEERS, K., TITCHEN, A., HARVEY, G., KITSON, A. & MCCORMACK, B. 2004. What counts as evidence in evidence-based practice? *Journal of Advanced Nursing*, 47, 81-90.
- SNAPE, D., KIRKHAM, J., PRESTON, J., POPAY, J., BRITTEN, N., COLLINS, M., FROGGATT, K., GIBSON, A., LOBBAN, F., WYATT, K. & JACOBY, A. 2014. Exploring areas of consensus and conflict around values underpinning public involvement in health and social care research: a modified Delphi study. *BMJ Open*, 4, e004217.
- STALEY K 2009. Exploring Impact: Public Involvement in NHS, Public Health and Social Care Research. UK Clinical Research Collaboration.
- STALEY, K., BUCKLAND, S. A., HAYES, H. & TARPEY, M. 2014. 'The missing links': understanding how context and mechanism influence the impact of public involvement in research. *Health Expectations*, 17, 755-764.
- STANISZEWSKA, S., BRETT, J., MOCKFORD, C. & BARBER, R. 2011. The GRIPP checklist: Strengthening the quality of patient and public involvement reporting in research. *International Journal of Technology Assessment in Health Care*, 27, 391-399.
- THOMPSON, G. N., ESTABROOKS, C. A. & DEGNER, L. F. 2006. Clarifying the concepts in knowledge transfer: a literature review. *Journal of Advanced Nursing*, 53, 691-701.
- VERHAGEN, E., VOOGT, N., BRUINSMA, A. & FINCH, C. F. 2014. A knowledge transfer scheme to bridge the gap between science and practice: an integration of existing research frameworks into a tool for practice. *British Journal of Sports Medicine*, 48, 698-701.
- WARD, P. R., THOMPSON, J., BARBER, R., ARMITAGE, C. J., BOOTE, J. D., COOPER, C. L. & JONES, G. L. 2010. Critical perspectives on 'consumer involvement' in health research Epistemological dissonance and the know-do gap. *Journal of Sociology*, 46, 63-82.
- WARD, V., HOUSE, A. & HAMER, S. 2009. Developing a framework for transferring knowledge into action: a thematic analysis of the literature. *Journal of Health Services Research & Policy*, 14, 156-164.
- WILSON P, M. E., ET AL. 2015. ReseArch with Patient and Public invOlvement: a RealisT evaluation: the RAPPORT study. *Health Services Delivery Research*, 3.
- YIN, R. K. 1994. *Case Study Research: design and methods*. , Thousand Oaks, Sage.

Table 1: Distribution of domains in source literature (number of times coded within each source)

Source	Domain				
	1. Relational models of knowledge production	2. Experiential knowledge	3. Collaborative practice	4. Knowledge facilitation	5. Implementation context
Dagenais et al. 2013. Knowledge Transfer on Complex Social Interventions in Public Health: A Scoping Study. <i>Plos One</i> , 8.	-	-	-	-	1
Graham et al. 2006. Lost in knowledge translation: Time for a map? <i>Journal of Continuing Education in the Health Professions</i> , 26, 13-24.	5	5	1	-	1
Hoejmakers et al. 2013. Academic Collaborative Centre Limburg: A platform for knowledge transfer and exchange in public health policy, research and practice? <i>Health Policy</i> , 111, 175-183.	-	-	4	1	-
Jansson et al. 2010. In for the Long Haul: Knowledge Translation Between Academic and Nonprofit Organizations. <i>Qualitative Health Research</i> , 20, 131-143.	4	2	15	2	5
Pentland et al. 2011. Key characteristics of knowledge transfer and exchange in healthcare: integrative literature review. <i>Journal of Advanced Nursing</i> , 67, 1408-1425.	3	2	3	2	4
Thompson et al. 2006. Clarifying the concepts in knowledge transfer: a literature review. <i>Journal of Advanced Nursing</i> , 53, 691-701.	2	-	-	6	-

Verhagen et al. 2014. A knowledge transfer scheme to bridge the gap between science and practice: an integration of existing research frameworks into a tool for practice. <i>British Journal of Sports Medicine</i> , 48, 698-701.	1	-	1	2	1
Peters et al. 2013. Implementation research: what it is and how to do it. <i>British Medical Journal</i> , 347.	2	-	1	-	6
Kitson et al. 2008. Evaluating the successful implementation of evidence into practice using the PARiHS framework: theoretical and practical challenges. <i>Implementation Science</i> , 3.	1	1	1	1	1
Ward et al. 2009. Developing a framework for transferring knowledge into action: a thematic analysis of the literature. <i>Journal of Health Services Research &amp; Policy</i> , 14, 156-164.	2	4	2	2	5